

IN THE CLAIMS:

This listing of claims replaces any and all prior claim lists.

Listing of Claims:

Claim 1 (Currently Amended). A carbon nanotube composition that contains a water soluble conducting polymer having an acidic group (a), a solvent (b) and carbon nanotubes (c).

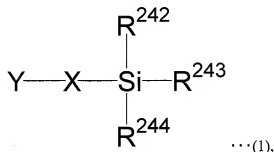
Claim 2 (Withdrawn). A carbon nanotube composition that contains a heterocyclic compound trimer (i), a solvent (b) and carbon nanotubes (c).

Claim 3 (Previously Amended). A carbon nanotube composition according to claim 1, wherein the carbon nanotube composition additionally contains a high molecular weight compound (d).

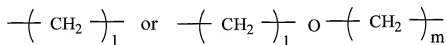
Claim 4 (Previously Amended). A carbon nanotube composition according to claim 1, wherein the carbon nanotube composition additionally contains a basic compound (e).

Claim 5 (Previously Amended). A carbon nanotube composition according to claim 1, wherein the carbon nanotube composition additionally contains a surfactant (f).

Claim 6 (Previously Amended). A carbon nanotube composition according to claim 1, wherein the carbon nanotube composition additionally contains a silane coupling agent (g) represented by the following formula (1):



wherein in the formula (1) R^{242} , R^{243} and R^{244} respectively and independently represent a group selected from the group consisting of hydrogen, a linear or branched alkyl group having 1 to 6 carbon atoms, linear or branched alkoxy group having 1 to 6 carbon atoms, amino group, acetyl group, phenyl group and halogen group, X represents the following:



l and m represent values from 0 to 6, and Y represents a group selected from the group consisting of a hydroxyl group, thiol group, amino group, epoxy group and epoxycyclohexyl group.

Claim 7 (Previously Amended). A carbon nanotube composition according to claim 1, wherein the carbon nanotube composition additionally contains a colloidal silica (h).

Claim 8 (Canceled).

Claim 9 (Currently Amended). A carbon nanotube composition according to claim 18, wherein the water soluble conducting polymer has at least one of a sulfonic acid group and a carboxyl group.

Claim 10 (Previously Amended). A carbon nanotube composition according to claim 9, wherein the water soluble conducting polymer having at least one of a sulfonic acid group and a carboxyl group is a water soluble conducting polymer that contains 20 to 100% of at least one type of the repeating units selected from the following formulas (2) to (10) relative to the total number of repeating units throughout the entire polymer:



wherein in the formula (2) R^1 and R^2 are respectively and independently selected from the group consisting of H, $-SO_3^-$, $-SO_3H$, $-R^{35}SO_3^-$, $-R^{35}SO_3H$, $-OCH_3$, $-CH_3$, $-C_2H_5$, $-F$, $-Cl$, $-Br$, $-I$, $-N(R^{35})_2$, $-NHCO R^{35}$, $-OH$, $-O^-$, $-SR^{35}$, $-OR^{35}$, $-OCOR^{35}$, $-NO_2$, $-COOH$, $-R^{35}COOH$, $-COOR^{35}$, $-COR^{35}$, $-CHO$ and $-CN$, where R^{35} represents an alkyl, aryl or aralkyl group having 1 to 24 carbon atoms or an alkylene, arylene or aralkylene group having 1 to 24 carbon atoms, and at least one of R^1 and R^2 is a group selected from the group consisting of $-SO_3^-$, $-SO_3H$, $-R^{35}SO_3^-$, $-R^{35}SO_3H$, $-COOH$ and $-R^{35}COOH$;



wherein in the formula (3) R^3 and R^4 are respectively and independently selected from the group consisting of H, $-SO_3^-$, $-SO_3H$, $-R^{35}SO_3^-$, $-R^{35}SO_3H$, $-OCH_3$, $-CH_3$, $-C_2H_5$, $-F$, $-Cl$, $-Br$, $-I$, $-N(R^{35})_2$, $-NHCO R^{35}$, $-OH$, $-O^-$, $-SR^{35}$, $-OR^{35}$, $-OCOR^{35}$, $-NO_2$, $-COOH$, $-R^{35}COOH$, $-COOR^{35}$, $-COR^{35}$, $-CHO$

and -CN, where R^{35} represents an alkyl, aryl or aralkyl group having 1 to 24 carbon atoms or an alkylene, arylene or aralkylene group having 1 to 24 carbon atoms, and at least one of R^3 and R^4 is a group selected from the group consisting of $-\text{SO}_3^-$, $-\text{SO}_3\text{H}$, $-\text{R}^{35}\text{SO}_3^-$, $-\text{R}^{35}\text{SO}_3\text{H}$, $-\text{COOH}$ and $-\text{R}^{35}\text{COOH}$;

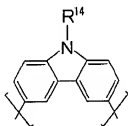


wherein in the formula (4) R^5 to R^8 are respectively and independently selected from the group consisting of H , $-\text{SO}_3^-$, $-\text{SO}_3\text{H}$, $-\text{R}^{35}\text{SO}_3^-$, $-\text{R}^{35}\text{SO}_3\text{H}$, $-\text{OCH}_3$, $-\text{CH}_3$, $-\text{C}_2\text{H}_5$, $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{N}(\text{R}^{35})_2$, $-\text{NHCOR}^{35}$, $-\text{OH}$, $-\text{O}^-$, $-\text{SR}^{35}$, $-\text{OR}^{35}$, $-\text{OCOR}^{35}$, $-\text{NO}_2$, $-\text{COOH}$, $-\text{R}^{35}\text{COOH}$, $-\text{COOR}^{35}$, $-\text{COR}^{35}$, $-\text{CHO}$ and $-\text{CN}$, where R^{35} represents an alkyl, aryl or aralkyl group having 1 to 24 carbon atoms or an alkylene, arylene or aralkylene group having 1 to 24 carbon atoms, and at least one of R^5 to R^8 is a group selected from the group consisting of $-\text{SO}_3^-$, $-\text{SO}_3\text{H}$, $-\text{R}^{35}\text{SO}_3^-$, $-\text{R}^{35}\text{SO}_3\text{H}$, $-\text{COOH}$ and $-\text{R}^{35}\text{COOH}$;



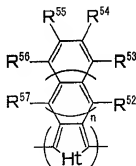
wherein in the formula (5) R^9 to R^{13} are respectively and independently selected from the group consisting of H , $-\text{SO}_3^-$, $-\text{SO}_3\text{H}$, $-\text{R}^{35}\text{SO}_3^-$, $-\text{R}^{35}\text{SO}_3\text{H}$, $-\text{OCH}_3$, $-\text{CH}_3$, $-\text{C}_2\text{H}_5$, $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{N}(\text{R}^{35})_2$, $-\text{NHCOR}^{35}$, $-\text{OH}$, $-\text{O}^-$, $-\text{SR}^{35}$, $-\text{OR}^{35}$, $-\text{OCOR}^{35}$, $-\text{NO}_2$, $-\text{COOH}$, $-\text{R}^{35}\text{COOH}$, $-\text{COOR}^{35}$, $-\text{COR}^{35}$, $-\text{CHO}$

and -CN, where R^{35} represents an alkyl, aryl or aralkyl group having 1 to 24 carbon atoms or an alkylene, arylene or aralkylene group having 1 to 24 carbon atoms, and at least one of R^9 to R^{13} is a group selected from the group consisting of $-SO_3^-$, $-SO_3H$, $-R^{35}SO_3^-$, $-R^{35}SO_3H$, $-COOH$ and $-R^{35}COOH$;



(6)

wherein in the formula (6) R^{14} is selected from the group consisting of $-SO_3^-$, $-SO_3H$, $-R^{42}SO_3^-$, $-R^{42}SO_3H$, $-COOH$ and $-R^{42}COOH$, where R^{42} represents an alkylene, arylene or aralkylene group having 1 to 24 carbon atoms;



(7)

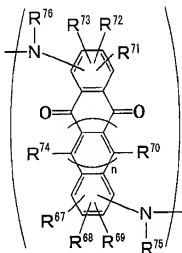
wherein in the formula (7) R^{52} to R^{57} are respectively and independently selected from the group consisting of H, $-SO_3^-$, $-SO_3H$, $-R^{35}SO_3^-$, $-R^{35}SO_3H$, $-OCH_3$, $-CH_3$, $-C_2H_5$, $-F$, $-Cl$, $-Br$, $-I$, $-N(R^{35})_2$, $-NHCOR^{35}$, $-OH$, $-O^-$, $-SR^{35}$, $-OR^{35}$, $-OCOR^{35}$, $-NO_2$, $-COOH$, $-R^{35}COOH$, $-COOR^{35}$, $-COR^{35}$, $-CHO$ and $-CN$, where R^{35} represents an alkyl, aryl or aralkyl group having 1 to 24 carbon atoms or an alkylene, arylene or aralkylene group having 1 to 24 carbon atoms, at least one of R^{52} to R^{57} is a group selected from the group consisting of $-SO_3^-$, $-SO_3H$, $-R^{35}SO_3^-$, $-R^{35}SO_3H$, $-COOH$ and $-$

$R^{35}COOH$, Ht represents a heteroatom group selected from the group consisting of NR^{82} , S, O, Se and Te, where R^{82} represents hydrogen, a linear or branched alkyl group having 1 to 24 carbon atoms, or a substituted or non-substituted aryl group having 1 to 24 carbon atoms, the hydrocarbon chains of R^{52} to R^{57} mutually bond at arbitrary locations and may form a bivalent chain that forms at least one cyclic structure of saturated or unsaturated hydrocarbons of a 3 to 7-member ring together with the carbon atoms substituted by the groups, the cyclic bonded chain formed in this manner may contain a carbonyl ether, ester, amide, sulfide, sulfinyl, sulfonyl or imino bond at arbitrary locations, and n represents the number of condensed rings sandwiched between a hetero ring and a benzene ring having substituents R^{53} to R^{56} , and is 0 or an integer of 1 to 3;



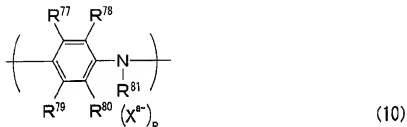
wherein in the formula (8) R^{58} to R^{66} are respectively and independently selected from the group consisting of H, $-SO_3^-$, $-SO_3H$, $-R^{35}SO_3^-$, $-R^{35}SO_3H$, $-OCH_3$, $-CH_3$, $-C_2H_5$, $-F$, $-Cl$, $-Br$, $-I$, $-N(R^{35})_2$, $-NHCOR^{35}$, $-OH$, $-O^-$, $-SR^{35}$, $-OR^{35}$, $-OCOR^{35}$, $-NO_2$, $-COOH$, $-R^{35}COOH$, $-COOR^{35}$, $-COR^{35}$, $-CHO$ and $-CN$, where R^{35} represents an alkyl, aryl or aralkyl group having 1 to 24 carbon atoms or an alkylene, arylene or aralkylene group having 1 to 24 carbon atoms, at least one of R^{58} to R^{66} is a group selected from the group consisting of $-SO_3^-$, $-SO_3H$, $-R^{35}SO_3^-$, $-R^{35}SO_3H$, $-COOH$ and $-R^{35}COOH$, and n represents the number of condensed rings sandwiched between a benzene ring

having substituents R^{58} and R^{59} and a benzene ring having substituents R^{61} to R^{64} , and is 0 or an integer of 1 to 3;



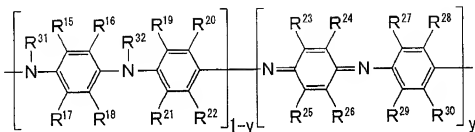
(9)

wherein in the formula (9) R^{67} to R^{76} are respectively and independently selected from the group consisting of H, $-SO_3^-$, $-SO_3H$, $-R^{35}SO_3^-$, $-R^{35}SO_3H$, $-OCH_3$, $-CH_3$, $-C_2H_5$, $-F$, $-Cl$, $-Br$, $-I$, $-N(R^{35})_2$, $-NHCOR^{35}$, $-OH$, $-O^-$, $-SR^{35}$, $-OR^{35}$, $-OCOR^{35}$, $-NO_2$, $-COOH$, $-R^{35}COOH$, $-COOR^{35}$, $-COR^{35}$, $-CHO$ and $-CN$, where R^{35} represents an alkyl, aryl or aralkyl group having 1 to 24 carbon atoms or an alkylene, arylene or aralkylene group having 1 to 24 carbon atoms, at least one of R^{67} to R^{76} is a group selected from the group consisting of $-SO_3^-$, $-SO_3H$, $-R^{35}SO_3^-$, $-R^{35}SO_3H$, $-COOH$ and $-R^{35}COOH$, and n represents the number of condensed rings sandwiched between a benzene ring having substituents R^{67} to R^{69} and a benzoquinone ring, and is 0 or an integer of 1 to 3; and,



wherein in the formula (10) R^{77} to R^{81} are respectively and independently selected from the group consisting of H, $-\text{SO}_3^-$, $-\text{SO}_3\text{H}$, $-\text{R}^{35}\text{SO}_3^-$, $-\text{R}^{35}\text{SO}_3\text{H}$, $-\text{OCH}_3$, $-\text{CH}_3$, $-\text{C}_2\text{H}_5$, $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{N}(\text{R}^{35})_2$, $-\text{NHCOR}^{35}$, $-\text{OH}$, $-\text{O}^-$, $-\text{SR}^{35}$, $-\text{OR}^{35}$, $-\text{OCOR}^{35}$, $-\text{NO}_2$, $-\text{COOH}$, $-\text{R}^{35}\text{COOH}$, $-\text{COOR}^{35}$, $-\text{COR}^{35}$, $-\text{CHO}$ and $-\text{CN}$, where R^{35} represents an alkyl, aryl or aralkyl group or alkylene, arylene having 1 to 24 carbon atoms or an aralkylene group having 1 to 24 carbon atoms, at least one of R^{77} to R^{81} is a group selected from the group consisting of $-\text{SO}_3^-$, $-\text{SO}_3\text{H}$, $-\text{R}^{35}\text{SO}_3^-$, $-\text{R}^{35}\text{SO}_3\text{H}$, $-\text{COOH}$ and $-\text{R}^{35}\text{COOH}$, X^{a-} is at least one type of anion selected from the group of anions having a valence of 1 to 3 consisting of a chlorine ion, bromine ion, iodine ion, fluorine ion, nitrate ion, sulfate ion, hydrogensulfate ion, phosphate ion, borofluoride ion, perchlorate ion, thiocyanate ion, acetate ion, propionate ion, methane sulfonate ion, p-toluene sulfonate ion, trifluoroacetate ion and trifluoromethane sulfonate ion, a represents the ion valence of X and is an integer of 1 to 3, and p represents the doping ratio and has a value of 0.001 to 1.

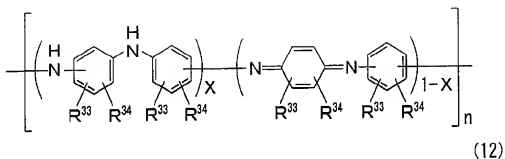
Claim 11 (Withdrawn). A carbon nanotube composition according to claim 9, wherein the water soluble conducting polymer having at least one of a sulfonic acid group and a carboxyl group is a water soluble conducting polymer that contains 20 to 100% of the repeating unit represented by the following formula (11) relative to the total number of repeating units throughout the entire polymer:



(11)

wherein in the formula (11) y represents an arbitrary number such that $0 < y < 1$, R^{15} to R^{32} are respectively and independently selected from the group consisting of H, $-\text{SO}_3^-$, $-\text{SO}_3\text{H}$, $-\text{R}^{35}\text{SO}_3^-$, $-\text{R}^{35}\text{SO}_3\text{H}$, $-\text{OCH}_3$, $-\text{CH}_3$, $-\text{C}_2\text{H}_5$, $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{N}(\text{R}^{35})_2$, $-\text{NHCOR}^{35}$, $-\text{OH}$, $-\text{O}^-$, $-\text{SR}^{35}$, $-\text{OR}^{35}$, $-\text{OCOR}^{35}$, $-\text{NO}_2$, $-\text{COOH}$, $-\text{R}^{35}\text{COOH}$, $-\text{COOR}^{35}$, $-\text{COR}^{35}$, $-\text{CHO}$ and $-\text{CN}$, where R^{35} represents an alkyl, aryl or aralkyl group having 1 to 24 carbon atoms or an alkylene, arylene or aralkylene group having 1 to 24 carbon atoms, and at least one of R^{15} to R^{32} is a group selected from the group consisting of $-\text{SO}_3^-$, $-\text{SO}_3\text{H}$, $-\text{R}^{35}\text{SO}_3^-$, $-\text{R}^{35}\text{SO}_3\text{H}$, $-\text{COOH}$ and $-\text{R}^{35}\text{COOH}$.

Claim 12 (Withdrawn). A carbon nanotube composition according to claim 9, wherein the water soluble conducting polymer having at least one of a sulfonic acid group and a carboxyl group is represented by the following formula (12):



wherein in the formula (12) R^{33} represents one group selected from the group consisting of a sulfonic acid group, carboxyl group, their alkaline metal salts, ammonium salts and substituted ammonium salts, R^{34} represents one group selected from the group consisting of a methyl group, ethyl group, n-propyl group, iso-propyl group, n-butyl group, iso-butyl group, sec-butyl group, tert-butyl group, dodecyl group, tetracosyl group, methoxy group, ethoxy group, n-propoxy group, iso-butoxy group, sec-butoxy group, tert-butoxy group, heptoxy group, hexoxy group, octoxy group, dodecoxy group, tetraoxy group, fluoro group, chloro group and bromo group, X represents an arbitrary number such that $0 < X < 1$, and n represents the degree of polymerization and has a value of 3 or more.

Claim 13 (Withdrawn). A carbon nanotube composition according to claim 9, wherein the water soluble conducting polymer having at least one of a sulfonic acid group and a carboxyl group is a water soluble conducting polymer obtained by polymerizing at least one of type of acidic group-substituted aniline represented by the following formula (13), its alkaline metal salt, ammonium salt and substituted ammonium salt, with an oxidizing agent in a solution containing a basic compound:



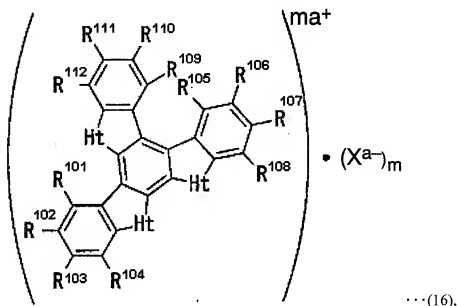
(13)

wherein in the formula (13) R³⁶ to R⁴¹ are respectively and independently selected from the group consisting of H, -SO₃⁻, -SO₃H, -R³⁵SO₃⁻, -R³⁵SO₃H, -OCH₃, -CH₃, -C₂H₅, -F, -Cl, -Br, -I, -N(R³⁵)₂, -NHCO³⁵, -OH, -O⁻, -SR³⁵, -OR³⁵, -OCOR³⁵, -NO₂, -COOH, -R³⁵COOH, -COOR³⁵, -COR³⁵, -CHO and -CN, where R³⁵ represents an alkyl, aryl or aralkyl group having 1 to 24 carbon atoms or an alkylene, arylene or aralkylene group having 1 to 24 carbon atoms, and at least one of R³⁶ to R⁴¹ is a group selected from the group consisting of -SO₃⁻, -SO₃H, -R³⁵SO₃⁻, -R³⁵SO₃H, -COOH and -R³⁵COOH.

Claim 14 (Original). A carbon nanotube composition according to claim 9, wherein the water soluble conducting polymer having at least one of a sulfonic acid group and a carboxyl group is a water soluble conducting polymer obtained by polymerizing at least one type of alkoxy group-substituted aminobenzene sulfonic acid, its alkaline metal salt, ammonium salt and substituted ammonium salt, with an oxidizing agent in a solution containing a basic compound.

Claim 15 (Withdrawn). A carbon nanotube composition according to claim 9, wherein the water soluble conducting polymer having at least one of a sulfonic acid group and a carboxyl group is polyethylene dioxythiophene polystyrene sulfate.

Claim 16 (Withdrawn). A carbon nanotube composition according to claim 2, wherein the composition contains a heterocyclic compound trimer (i) that is a heterocyclic compound trimer represented by the following formula (16):

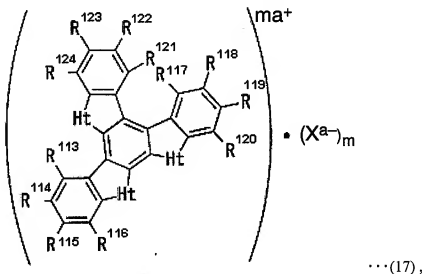


wherein in the formula (16) R^{101} to R^{112} are substituents respectively and independently selected from the group consisting of hydrogen, a linear or branched alkyl group having 1 to 24 carbon atoms, a linear or branched alkoxy group having 1 to 24 carbon atoms, linear or branched acyl group having 2 to 24 carbon atoms, aldehyde group, carboxyl group, linear or branched carboxylic ester group having 2 to 24 carbon atoms, sulfonic acid group, linear or branched sulfonic ester group having 1 to 24 carbon atoms, cyano group, hydroxyl group, nitro group, amino group, amido group, dicyanovinyl group, alkyl (linear or branched alkyl group having 1 to 8 carbon atoms) oxycarbonylcyanovinyl group, nitrophenylcyanovinyl group and halogen group;

Ht represents a heteroatom group selected from the group consisting of NR^{154} , S, O, Se and Te, and R^{154} represents a substituent selected from the group consisting of hydrogen and a linear or branched alkyl group having 1 to 24 carbon atoms;

X^{a-} represents at least one type of anion selected from the group consisting of anions having a valence of 1 to 3 consisting of a chlorine ion, bromine ion, iodine ion, fluorine ion, nitrate ion, sulfate ion, hydrogensulfate ion, phosphate ion, borofluoride ion, perchlorate ion, thiocyanate ion, acetate ion, propionate ion, methane sulfonate ion, p-toluene sulfonate ion, trifluoroacetate ion and trifluoromethane sulfonate ion; a represents the ion valence of X and is an integer of 1 to 3; and, m represents the doping ratio and has a value of 0 to 3.0.

Claim 17 (Withdrawn). A carbon nanotube composition according to claim 2, wherein the composition contains a heterocyclic compound trimer (i) that is a heterocyclic compound trimer represented by the following general formula (17):



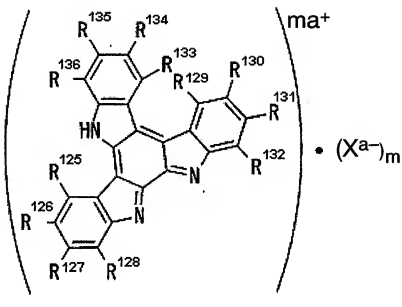
wherein in the formula (17) R^{113} to R^{124} represent substituents respectively and independently selected from the group consisting of hydrogen, a linear or branched alkyl group having 1 to 24 carbon atoms, linear or branched alkoxy group having 1 to 24 carbon atoms, linear or branched acyl group having 2 to 24 carbon atoms, aldehyde group, carboxyl group, linear or branched carboxylic ester group having 2 to 24 carbon atoms, sulfonic acid group, linear or branched sulfonic ester group

having 1 to 24 carbon atoms, cyano group, hydroxyl group, nitro group, amino group, amido group, dicyanovinyl group, alkyl (linear or branched alkyl group having 1 to 8 carbon atoms) oxycarbonylcyanovinyl group, nitrophenylcyanovinyl group and halogen group; at least one of R^{113} to R^{124} is a cyano group, nitro group, amide group, halogen group, sulfonic acid group, and carboxyl group;

Ht represents a heteroatom group selected from the group consisting of NR^{154} , S, O, Se and Te, and R^{154} represents a substituent selected from the group consisting of hydrogen and a linear or branched alkyl group having 1 to 24 carbon atoms;

X^b represents at least one type of anion selected from the group consisting of anions having a valence of 1 to 3 consisting of a chlorine ion, bromine ion, iodine ion, fluorine ion, nitrate ion, sulfate ion, hydrogen sulfate ion, phosphate ion, borofluoride ion, perchlorate ion, thiocyanate ion, acetate ion, propionate ion, methane sulfonate ion, p-toluene sulfonate ion, trifluoroacetate ion and trifluoromethane sulfonate ion; a represents the ion valence of X and is an integer of 1 to 3; and, m represents the doping ratio and has a value of 0 to 3.0.

Claim 18 (Withdrawn). A carbon nanotube composition according to claim 2, wherein the composition contains a heterocyclic compound trimer (i) that is a heterocyclic compound trimer represented by the following general formula (18):

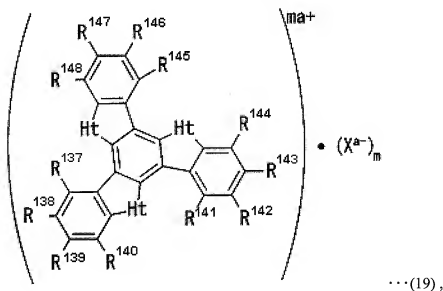


wherein in the formula (18) R¹²⁵ to R¹³⁶ are substituents respectively and independently selected from the group consisting of hydrogen, a linear or branched alkyl group having 1 to 24 carbon atoms, linear or branched alkoxy group having 1 to 24 carbon atoms, linear or branched acyl group having 2 to 24 carbon atoms, aldehyde group, carboxylic acid group and its alkaline metal salt, ammonium salt and substituted ammonium salt, linear or branched carboxylic ester group having 2 to 24 carbon atoms, sulfonic acid group and its alkaline metal salt, ammonium salt and substituted ammonium salt, linear or branched sulfonic ester group having 1 to 24 carbon atoms, cyano group, hydroxyl group, nitro group, amino group, amido group, dicyanovinyl group, alkyl (linear or branched alkyl group having 1 to 8 carbon atoms)oxycarbonylcyanovinyl group, nitrophenylcyanovinyl group and halogen group;

X^{a-} represents at least one type of anion selected from the group consisting of anions having a valence of 1 to 3 consisting of a chlorine ion, bromine ion, iodine ion, fluorine ion, nitrate ion, sulfate ion, hydrogen sulfate ion, phosphate ion, borofluoride ion, perchlorate ion, thiocyanate ion, acetate

ion, propionate ion, methane sulfonate ion, p-toluene sulfonate ion, trifluoroacetate ion and trifluoromethane sulfonate ion; a represents the ion valence of X and is an integer of 1 to 3; and, m represents the doping ratio and has a value of 0 to 3.0.

Claim 19 (Withdrawn). A carbon nanotube composition according to claim 2, wherein the composition contains a heterocyclic compound trimer (i) that is a heterocyclic compound trimer represented by the following general formula (19):



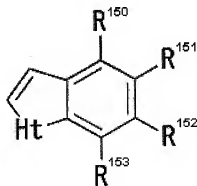
wherein in the formula (19) R^{137} to R^{148} are substituents respectively and independently selected from the group consisting of hydrogen, a linear or branched alkyl group having 1 to 24 carbon atoms, linear or branched alkoxy group having 1 to 24 carbon atoms, linear or branched acyl group having 2 to 24 carbon atoms, aldehyde group, carboxyl group, linear or branched carboxylic ester group having 2 to 24 carbon atoms, sulfonic acid group, linear or branched sulfonic ester group having 1 to 24 carbon atoms, cyano group, hydroxyl group, nitro group, amino group, amido group, dicyanovinyl

group, alkyl (linear or branched alkyl group having 1 to 8 carbon atoms)oxycarbonylcyanovinyl group, nitrophenylcyanovinyl group and halogen group;

Ht represents a heteroatom group selected from the group consisting of NR^{154} , S, O, Se and Te, and R^{154} represents a substituent selected from the group consisting of hydrogen and a linear or branched alkyl group having 1 to 24 carbon atoms;

X^+ represents at least one type of anion selected from the group consisting of anions having a valence of 1 to 3 consisting of a chlorine ion, bromine ion, iodine ion, fluorine ion, nitrate ion, sulfate ion, hydrogen sulfate ion, phosphate ion, borofluoride ion, perchlorate ion, thiocyanate ion, acetate ion, propionate ion, methane sulfonate ion, p-toluene sulfonate ion, trifluoroacetate ion and trifluoromethane sulfonate ion; a represents the ion valence of X and is an integer of 1 to 3; and, m represents the doping ratio and has a value of 0 to 3.0.

Claim 20 (Withdrawn). A carbon nanotube composition according to claim 2, wherein the composition contains a heterocyclic compound trimer (i) that is a heterocyclic compound trimer obtained by reacting at least one type of heterocyclic compound represented by the following general formula (20) in a reaction mixture containing at least one type of oxidizing agent and at least one type of solvent:



... (20),

wherein in the formula (20) R^{150} to R^{153} are substituents respectively and independently selected from the group consisting of hydrogen, a linear or branched alkyl group having 1 to 24 carbon atoms, linear or branched alkoxy group having 1 to 24 carbon atoms, linear or branched acyl group having 2 to 24 carbon atoms, aldehyde group, carboxyl group, linear or branched carboxylic ester group having 2 to 24 carbon atoms, sulfonic acid group, linear or branched sulfonic ester group having 1 to 24 carbon atoms, cyano group, hydroxyl group, nitro group, amino group, amido group, dicyanovinyl group, alkyl (linear or branched alkyl group having 1 to 8 carbon atoms)oxycarbonylcyanovinyl group, nitrophenylcyanovinyl group and halogen group; and,

Ht represents a heteroatom group selected from the group consisting of NR^{154} , S, O, Se and Te, and R^{154} represents a substituent selected from the group consisting of hydrogen and a linear or branched alkyl group having 1 to 24 carbon atoms.

Claim 21 (Withdrawn). A carbon nanotube composition according to claim 2, wherein said carbon nanotube composition includes a the heterocyclic compound trimer (i) having a layered structure.

Claim 22 (Previously Amended). A production method of a carbon nanotube composition comprising: irradiating a carbon nanotube composition according to claim 1 with ultrasonic waves and mixing.

Claim 23 (Previously Amended). A composite comprising a base material, and a coated film composed of the carbon nanotube composition according to claim 1 on at least one surface of the base material.

Claim 24 (Previously Amended). A method of producing a composite comprising: coating the carbon nanotube composition according to claim 1 onto at least one surface of a base material, and forming a coated film by allowing the coated carbon nanotube to stand at room temperature or subjecting it to heat treatment.

Claim 25 (original). A production method of a composite according to claim 24, wherein the heat treatment is carried out within a temperature range of normal temperature to 250°C.